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**Background:** The advent of biologic therapy and their acceptance into mainstream use for the medical management of patients with inflammatory bowel disease (IBD) has transformed the landscape of treatment for this condition. It has particularly become a mainstay in the treatment of fistulating or perianal Crohn's Disease (CD). Data have shown that overall, 70% of patients will require surgical resections for CD. Consequently, questions have endured regarding the effect of biologic medications on the overall treatment course of CD patients. Our aim is to identify the efficacy of biologics by measuring surgical free survival. We subcategorised the period into 3 categories, including periods less than a year 1–5 years and >5 years and comparing these with the number of biologics they required to be switched either due to side effects or loss of medical response.

**Methods:** A retrospective analysis of prospectively collected data was correlated with the clinical coding department, inflammatory bowel disease and surgical databases. Patients receiving biological therapies were identified (Infliximab, Adalimumab, Vedolizumab, Ustekinumab, Certolizumab). Demographics, clinical and surgical data were analysed.

**Results:** Sixty-six patients were included in our analysis. Male to female ratio is 1 to 1.07, age range was 18–77, median age 41 (SD:17.46) years old. Twenty-five patients had ileocaecal resection, 17 had hemi and segmental colectomy, 7 had small bowel resection, 10 had subtotal colectomy and 7 had panproctocolectomy. Refractory to one biologic does not indicate biological failure; number of biologics switched and surgical free survival were compared. We have utilised the Spearman correlation coefficient for nominal analysis which gave us a coefficient of +0.725,  $p = 0.00$ . This indicates that both factors have a strong positive correlation between numbers of biologics patients used against period required for surgical management.

**Conclusion:** In the current era of biological therapies, with a breadth of choice of therapeutic agents, our data has a positive correlation between the number of biological agents used and surgery-free survival for patients with Crohn's disease. A multidisciplinary approach to the management of these patients should be personalised, and suitability to each biological agent should be considered in addition to close surgical observation.

## P276

### Reactivation of Epstein–Barr virus and cytomegalovirus behaves differently in pathophysiology of ulcerative colitis

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**Background:** Cytomegalovirus (CMV) and Epstein–Barr virus (EBV) are members of the herpesvirus family. CMV reactivation is often complicated with ulcerative colitis (UC) and is known as one of exacerbation factors. However, the association between EBV reactivation and pathophysiology of UC is still unclear.

**Methods:** This study enrolled 116 active UC patients who received colonoscopy between January 2005 and January 2019 in Kyoto University Hospital. 244 biopsy specimens were obtained from

inflamed colonic mucosa to assess EVB and CMV reactivation. Viral loads of EBV and CMV in inflamed mucosa were measured by real-time PCR assay. The reactivation of those viruses was defined as DNA quantity more than 10 copies/ $\mu$ g DNA. Clinical severity was assessed by Lichtiger index and defined as follow: 4–8 as mild, 9–12 as moderate, and more than 12 as severe. Endoscopic severity was assessed by Mayo endoscopic score. We examined the correlation between the positivity of each viral reactivation and patients' characteristics or prognosis of UC.

**Results:** (1) Median age, Lichtiger score and Mayo endoscopic score at the time to assess the viral reactivations were 36 years-old, 8, and 3, respectively. (2) EBV and CMV reactivation were observed in 127 samples (52.0%) and 73 samples (29.9%), respectively. There was no correlation between EBV and CMV viral load (correlation coefficient 0.19), although a significant correlation between those viral reactivations was observed in active colonic mucosa of UC patients ( $p = 0.002$ ). (3) The proportion of EBV reactivation was higher in both clinically and endoscopically severe UC patients compared with those with mild activity. On the other hands, there was no association between CMV reactivation and clinical or endoscopic severity. (4) Multivariate analysis indicated risk factors for EBV reactivation as receiving anti-TNF- $\alpha$  antibodies (odds ratio [OR] 4.2) or calcineurin inhibitors (OR 3.5), and CMV reactivation (OR 2.1), respectively. (5) Multivariate analysis also indicated risks for CMV reactivation as steroid-refractory (OR 4.7) and EBV reactivation (OR 2.0). (6) EBV and CMV reactivation did not affect clinical outcomes including the requirement of colectomy or intensification of immunosuppressive treatments and the incidence of colitis-associated cancer, dysplasia and lymphoproliferative disease.

**Conclusion:** Reactivation of EBV or CMV may behave differently in pathophysiology of UC. Further studies are required to clarify the role of EBV reactivation on colonic inflammation in UC patients.

## P277

### Ileo-rectal anastomosis vs. ileoanal pouch in ulcerative colitis: clinical outcome in a real-life experience

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**Background:** In ulcerative colitis (UC) surgery is required in about 10–20% of patients (patients). Evidence regarding the long-term outcome of Ileo-rectal anastomosis (IRA) vs. the recently proposed ileal pouch (IPAA) are still lacking. In a real-life, retrospective, single-centre study, we aimed to assess the clinical outcome of all UC patients with IRA or IPAA.

**Methods:** In a retrospective study, clinical records of UC patients with IPAA or IRA in regular follow-up from January 2001 to September 2019 were reviewed. Inclusion criteria: (1) UC diagnosis; (2) Age  $\geq 18$  years; (3) IPAA or IRA for UC; (4) Detailed clinical history; (5) follow up  $\geq 1$  year after surgery. The following parameters were reported: demographic and clinical characteristics, hospitalisation, additional surgery, mortality, dysplasia/cancer of the ileum and/or rectum, number of endoscopies and outpatient visits, stool frequency and treatments. The quality of life (QoL) are being evaluated. Data were expressed as median (range), differences among groups assessed by chi-squared test or unpaired T-test.